

RN 111-30-8 (GLUTARALDEHYDE)  
 7782-44-7 (OXYGEN)  
 CC General Biology-Symposia, Transactions and Proceedings of  
 Conferences, Congresses, Review Annuals 00520  
 Cytology and Cytochemistry-Human \*02508  
 Biochemistry-Gases \*10012  
 Biochemical Studies-Proteins, Peptides and Amino Acids 10064  
 Biochemical Studies-Porphyrins and Bile Pigments 10065  
 Biochemical Studies-Carbohydrates 10068  
 Biophysics-Bioengineering \*10511  
 Metabolism-Proteins, Peptides and Amino Acids \*13012  
 Metabolism-Porphyrins and Bile Pigments \*13013  
 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies  
 \*15004  
 BC Hominidae 86215  
  
 L3 ANSWER 2 OF 2 BIOSIS COPYRIGHT 1997 BIOSIS  
 AN 92:109616 BIOSIS  
 DN BR42:49616  
 TI A NEW TYPE OF ARTIFICIAL OXYGEN CARRIER SOLUBLE  
**HYPERPOLYMERIC HAEMOGLOBIN WITH NEGLIGIBLE ONCOTIC**  
 PRESSURE PRODUCTION OF STABLE HYPERPOLYMERS FROM HUMAN BLOOD WITH  
 GLUTARALDEHYDE AS CROSS-LINKER.  
 AU POETZSCHKE H; BARNIKOL W K R  
 CS INST. PHYSIOLOGIE PATHOPHYSIOLOGIE, JOHANNES GUTENBERG-UNIV. MAINZ,  
 SAARSTR. 21, D-6500 MAINZ, FRG.  
 SO VIII WORLD CONGRESS OF THE INTERNATIONAL SOCIETY FOR ARTIFICIAL  
 ORGANS AND THE IV INTERNATIONAL SYMPOSIUM ON BLOOD SUBSTITUTES,  
 MONTREAL, QUEBEC, CANADA, AUGUST 19-23, 1991. BIOMATER ARTIF CELLS  
 IMMOBILIZATION BIOTECHNOL 19 (2). 1991. 465. CODEN: BACBEU ISSN:  
 1055-7172  
 DT Conference  
 LA English  
 ST ABSTRACT HEMOGLOBIN REPLENISHING AGENT-DRUG HEMATOLOGIC-DRUG BLOOD  
 SUBSTITUTE  
 RN 111-30-8 (GLUTARALDEHYDE)  
 7782-44-7 (OXYGEN)  
 CC General Biology-Symposia, Transactions and Proceedings of  
 Conferences, Congresses, Review Annuals 00520  
 Comparative Biochemistry, General 10010  
 Biochemistry-Gases \*10012  
 Biochemical Studies-Proteins, Peptides and Amino Acids \*10064  
 Biochemical Studies-Porphyrins and Bile Pigments \*10065  
 Biophysics-Molecular Properties and Macromolecules \*10506  
 Biophysics-Bioengineering \*10511  
 Pathology, General and Miscellaneous-Therapy \*12512  
 Metabolism-Energy and Respiratory Metabolism \*13003  
 Blood, Blood-Forming Organs and Body Fluids-General; Methods \*15001  
 Pharmacology-Blood and Hematopoietic Agents \*22008  
 BC Hominidae 86215

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 1997 ACS DUPLICATE 1  
 AN 1996:230096 CAPLUS  
 DN 124:352416  
 TI Crosslinked globular proteins as a new class of semisynthetic  
 macromolecules: characterization of the structure in solution of  
**hyperpolymeric hemoglobin** and myoglobin by means  
 of size-exclusion chromatography, viscometry, osmometry and light  
 scattering  
 AU Poetzschke, Harald; Barnikol, Wolfgang K. R.; Kirste, Rudolf G.;  
 Rosenbaum, Markus  
 CS Inst. Physiol. Pathophysiol., Johannes Gutenberg-Univ., Mainz,  
 D-55099, Germany  
 SO Macromol. Chem. Phys. (1996), 197(4), 1419-37  
 CODEN: MCHPES; ISSN: 1022-1352  
 DT Journal  
 LA German  
 CC 63-3 (Pharmaceuticals)  
 AB An artificial O carrier for use in humans was developed by polymg.  
 native Hb and myoglobin, using bifunctional, amino group-specific  
 crosslinkers, to sol. hyperpolymers. These polymers, like other  
 polymd. globular proteins, are members of a new class of macromols.  
 which consist of macromol. base units. They all have, due to the  
 mechanisms of the chem. reaction, broad distributions of mol. wts.  
 Fractions of hyperpolymers of human Hb were obtained by employing  
 preparative gel-permeation chromatog. (GPC). The calibration curve  
 of anal. GPC for Hb hyperpolymers was detd. using mean mol. wts. of  
 some fractions, as assessed by osmometric and light scattering  
 measurements. In analogy to native globular proteins, the  
 calibration curve for Hb polymers was a straight line. All  
 fractions of Hb polymers were further characterized with the aid of  
 calibrated anal. GPC. Mean nonuniformity was .apprx.0.6. The  
 dependence of the logarithm of the intrinsic viscosity (.eta.) on  
 the logarithm of the viscosity-av. mol. wt. of the fractions (the  
 curve in the "structure-in-soln. diagram") also is a straight line,  
 which is true for Hb and for myoglobin polymers as well. Its first  
 deriv. is the exponent a of the Mark-Houwink function; for Hb and  
 myoglobin polymers the values are 0.39 and 0.46, resp. Hb and  
 myoglobin hyperpolymers both have a characteristic  
 "structure-in-soln. diagram" and a characteristic calibration curve  
 in GPC. The special structure-in-soln. of the polymer proteins is a  
 novel mol. superstructure. The value of .eta. for native myoglobin  
 was 3.5 mL/g.  
 ST Hb polymer structure; myoglobin hyperpolymer structure; crosslinking  
 Hb myoglobin  
 IT Molecular structure  
 (crosslinked globular proteins: characterization of structure in  
 soln. of hyperpolymeric Hb and myoglobin)  
 IT Crosslinking  
 (of Hb and myoglobin; crosslinked globular proteins:  
 characterization of structure in soln. of hyperpolymeric Hb and  
 myoglobin)  
 IT Hemoglobins  
 Myoglobins  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (polymers; crosslinked globular proteins: characterization of  
 structure in soln. of hyperpolymeric Hb and myoglobin)  
 IT 111-30-8, Glutaraldehyde  
 RL: RCT (Reactant)

(Hb and myoglobin crosslinking with; crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)

IT 135705-08-7, 2,5-Bis(isothiocyanato)benzenesulfonic acid  
 RL: RCT (Reactant)  
 (Hb crosslinking with; crosslinked globular proteins: characterization of structure in soln. of hyperpolymeric Hb and myoglobin)

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 1997 ACS DUPLICATE 2  
 AN 1993:260762 CAPLUS  
 DN 118:260762  
 TI A new type of artificial oxygen carrier: soluble **hyperpolymeric hemoglobin** with negligible oncotic pressure - production of thermally stable hyperpolymers from human blood with glutaraldehyde as cross-linker  
 AU Poetzschke, H.; Barnikol, W. K. R.  
 CS Inst. Physiol. Pathophysiol., Johannes Gutenberg-Univ. Mainz, Mainz, D-6500, Germany  
 SO Biomater., Artif. Cells, Immobilization Biotechnol. (1992), 20(2-4), 287-91  
 CODEN: BACBEU; ISSN: 1055-7172  
 DT Journal  
 LA English  
 CC 63-3 (Pharmaceuticals)  
 AB Hyperpolymers from human Hb were prepd. by redn. of Schiff bases, formed from glutaraldehyde and Hb, with NaCNBH3. These stabilized Hb polymers showed no changes in mol. wt. distribution, consequently the polymn. index remained the same during incubation up to 10 h.  
 ST Hb hyperpolymer blood substitute; glutaraldehyde Hb hyperpolymer  
 IT Blood substitutes and Plasma expanders  
 (Hb hyperpolymers, prepn. of stable, glutaraldehyde in)  
 IT Hemoglobins  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (reaction products, with glutaraldehyde, polymers, crosslinked, prepn. of stable, for blood substitutes)  
 IT 111-30-8D, Glutaraldehyde, reaction products with Hb, polymers, reduced  
 RL: BIOL (Biological study)  
 (crosslinked, prepn. of stable, for blood substitutes)

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